

**In the Claims:**

**Claim 1** (currently amended)      A valve timing mechanism, ~~in particular~~ for four-cycle engines, having the following components:

- a rocker frame (2) which is configured in one piece from lightweight metal and has at least one ~~two bars (34, 35) bar~~ which ~~are~~ is connected by webs (36, 37), for accomodating rocker arms;
  - hydraulic elements (6) for valve clearance compensation which have an outer piston (9) which is open on one side and has a supporting ball (5) which is configured in one piece at the closed end of said outer piston (9), and an inner piston (10) which is open on one side, is guided in the outer piston (9) and is connected in flow terms via a spring-loaded ball valve (12) to a high-pressure space (13) of said outer piston (9);
  - a steel sheet part which is arranged between the hydraulic elements (6) and the rocker arm frame (2);
  - a pressurized oil line which is arranged in the longitudinal extent of the rocker arm frame (2) at the level of the open end of the hydraulic elements (6);
  - deep-drawn steel sheet rocker arms (1) which are configured uniformly for all the valves, having a U-shaped cross section and having cylindrical rollers (3) mounted on needle bearings for at least one camshaft, and having a cap (4) for the supporting ball (5), and having contact elements for the valve stems of the inlet and outlet valves,
- ~~characterized in that~~ wherein the outer pistons (9) of the hydraulic elements (6) are guided in blind bores (8) of the rocker arm frame (2), and in that the steel part is

designed as a steel disk (11) is arranged at the bottom of the blind bores (8) as a stop for the inner piston (10) and outer pistons are guided directly in blind bores of the light weight frame.

**Claim 2 (currently amended)**      A valve timing mechanism, for four-cycle engines, having the following components:

- a rocker frame which is configured in one piece from lightweight metal and has at least one bar which is connected by webs, for accomodating rocker arms;
- hydraulic elements for valve clearance compensation which have an outer piston which is open on one side and has a supporting ball which is configured in one piece at the closed end of said outer piston, and an inner piston which is open on one side, is guided in the outer piston and is connected in flow terms via a spring-loaded ball valve to a high-pressure space of said outer piston;  
a steel sheet part which is arranged between the hydraulic elements and the
- rocker arm frame;
- a pressurized oil line which is arranged in the longitudinal extent of the rocker arm frame at the level of the open end of the hydraulic elements;
- deep-drawn steel sheet rocker arms which are configured uniformly for all the valves, having a U-shaped cross section and having cylindrical rollers mounted on needle bearings for at least one camshaft, and having a cap for the supporting-ball, and having contact elements for the valve stems of the inlet and outlet valves, wherein the outer pistons of the hydraulic elements are guided in blind bores of the rocker arm frame, and in that the steel part is designed as a steel disk arranged at the bottom of the blind bores as a stop for the inner piston and outer pistons are guided

directly in blind bores of the light weight frame. ~~The valve timing mechanism as claimed in claim 1, characterized in that,~~ the diameter of the steel disks (11) preferably corresponds to that of the blind bores (8), and in that the pressurized oil line is configured as a pressurized oil bore (14), the center line of which is preferably tangent on the circumference of the center plane of the steel disks (11) of the hydraulic elements (16) which are arranged in an offset manner.

**Claim 3 (currently amended)**      A valve timing mechanism, for four-cycle engines,  
having the following components:

- a rocker frame which is configured in one piece from lightweight metal and has at least one bar which is connected by webs, for accomodating rocker arms;
- hydraulic elements for valve clearance compensation which have an outer piston which is open on one side and has a supporting ball which is configured in one piece at the closed end of said outer piston, and an inner piston which is open on one side, is guided in the outer piston and is connected in flow terms via a spring-loaded ball valve to a high-pressure space of said outer piston;  
a steel sheet part which is arranged between the hydraulic elements and the
- rocker arm frame;
- a pressurized oil line which is arranged in the longitudinal extent of the rocker arm frame at the level of the open end of the hydraulic elements;
- deep-drawn steel sheet rocker arms which are configured uniformly for all the valves, having a U-shaped cross section and having cylindrical rollers mounted on needle bearings for at least one camshaft, and having a cap for the supporting-ball,

and having contact elements for the valve stems of the inlet and outlet valves,  
wherein the outer pistons of the hydraulic elements are guided in blind bores of the  
rocker arm frame, and in that the steel part is designed as a steel disk arranged at the  
bottom of the blind bores as a stop for the inner piston and outer pistons are guided  
directly in blind bores of the light weight frame. ~~The valve timing mechanism as~~  
~~claimed in claim 2, characterized in that,~~ on those sides (15, 16) of the steel disks (11)  
which are close to and remote from the bottom, matching, preferably radial channels  
(29) are arranged which serve to connect the pressurized oil bore (14) to venting bores  
(17) and to the inner space (18) of the inner pistons (10).

**Claim 4** (currently amended)      The valve timing mechanism ~~as claimed in of~~  
claim 3, ~~characterized in that~~ wherein the venting bores (17) in the rocker arm frame (2) are  
(preferably) arranged in the center line of the hydraulic elements (6).

**Claim 5** (currently amended)      The valve timing mechanism ~~as claimed in of~~  
claim 4, ~~characterized in that~~ wherein the outer side of the inner pistons (10) has a first  
circumferential groove (20) in the overlap region with the inner side of the outer pistons (9),  
said first circumferential groove (20) being connected to the inner space (18) of the inner  
pistons (10) via a radial bore (21).

**Claim 6** (currently amended)      The valve timing mechanism ~~as claimed in of~~  
claim 5, ~~characterized in that~~ wherein the outer circumference of the outer pistons (9) in the  
region of their open end, a second circumferential groove (22) is arranged with a circlip (23)  
which latches into a third circumferential groove (24) in the end region of the blind bores (8).

**Claim 7** (currently amended)      The valve timing mechanism ~~as claimed in~~ of claim 6, ~~characterized in that~~ wherein the length of the third circumferential groove (24) corresponds at least to the adjustment path of the hydraulic elements (6).

**Claim 8** (currently amended)      The valve timing mechanism ~~as claimed in~~ of claim 7, ~~characterized in that~~ wherein the cross section of the deep-drawn steel sheet rocker arm (1) is configured as a U-profile which is open at the top and has a profile bottom (25) into which the cap (4) is embossed.

**Claim 9** (currently amended)      The valve timing mechanism ~~as claimed in~~ of claim 8, ~~characterized in that~~ wherein a cylindrical shaped-out molding (7) having a minimum transverse camber is provided as a contact element for the valve stems at the valve-side end of the steel sheet rocker arms (1) on the outer side (26) of the profile bottom (25), the center line of said cylindrical shaped-out molding (7), lying parallel to the tilting axis of the steel sheet rocker arm (1).

**Claim 10** (currently amended)      The valve timing mechanism ~~as claimed in~~ of claim 9, ~~characterized in that~~ wherein two parallel guide rails (28) are ~~preferably~~ formed in one piece with a rectangular cross section and at the distance of the diameter of the valve stems and in the tilting direction of the steel sheet rocker arms (1) on the outer side (26) of the profile bottom (25) in the region of the cylindrical shaped-out molding (7) in a manner which follows its contour.lying parallel to the tilting axis of the steel sheet rocker arm (1).